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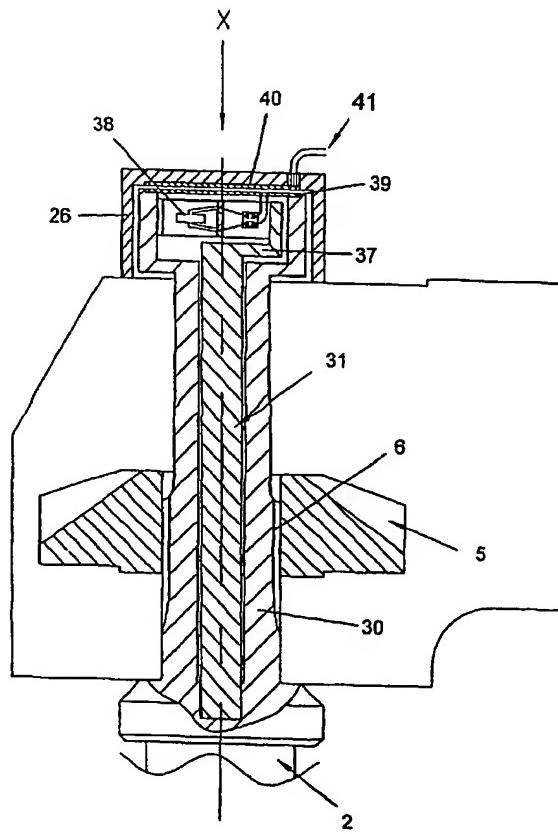
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[Continued on next page]

(54) Title: TORQUE SENSING TOOL



WO 03/082527 A1



(57) Abstract: A torque applying tool such as a nutrunner or torque wrench incorporates torque sensors responsive to strain in a shaft (30) mounting an output square drive head (2) the strain being measured as it exists immediately adjacent the drive head (2). The shaft (30) is a hollow quill shaft an outer diameter of which is splined (6) to receive a torque drive input at a location axially spaced from the drive head (2). A central shaft (31) extends from the drive head (2) centrally up the quill shaft (30) and a flexible cantilever beam (34) is mounted between a cranked end (37) of the central shaft (31) as it extends out of the quill shaft (2) and the corresponding end of the quill shaft (2). One or more strain sensing transducers (38), preferably S.A.W. devices, are mounted on the cantilever beam (34) to detect flexure of the beam (34), and the resulting output signal is passed through an inductive or capacitive coupling (39,40) for transmission to a CPU (27) and display (28).

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

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A	US 4 757 721 A (CRANE DAVID O ET AL) 19 July 1988 (1988-07-19) the whole document ---	3
A	WO 01 67058 A (MAGORI VALENTIN ;SIEMENS AG (DE); WOLFF ULRICH (DE)) 13 September 2001 (2001-09-13) the whole document ---	5
A	WO 01 33180 A (LONSDALE BRYAN ;LONSDALE ANTHONY (GB); TRANSENSE TECHNOLOGIES PLC) 10 May 2001 (2001-05-10) the whole document ---	5
	-/-	

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